

## CLAIMS

1. A surface treated steel sheet for battery cases having an indium layer at least on one surface thereof.
2. A surface treated steel sheet for battery cases as set forth in claim 1, wherein the indium layer is formed by electrolytic plating.
3. A surface treated steel sheet for battery cases as set forth in claim 1 or 2, wherein the indium layer is formed on the steel surface supposed to form the inner surface of a battery case.
4. A surface treated steel sheet for battery cases as set forth in any of claims 1 to 3, wherein the steel sheet has a nickel or nickel alloy layer formed as a lower layer on its surface supposed to form the inner surface of a battery case and an indium layer formed as an upper layer thereon.
5. A surface treated steel sheet for battery cases as set forth in claim 4, wherein the nickel alloy layer contains one or more of a nickel-tin alloy, a nickel-iron alloy, a nickel-iron diffused layer, a nickel-phosphorus alloy and a nickel-cobalt alloy.
6. A surface treated steel sheet for battery cases as set forth in any of claims 1 to 4, wherein the steel sheet has an iron-nickel diffused layer formed as a lower layer on its surface supposed to form the inner surface of a battery case,

a nickel layer as a middle layer and an indium layer as an upper layer.

7. A battery case formed by the deep drawing, DI or DTR method from a surface treated steel sheet for battery cases as set forth in any of claims 1 to 6.